

Inclusive Technologies

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Office of the Secretary
Federal Communications Commission
1919 M Street, N.W.
Washington, DC 20554

MM 95-176
Re: Report No. MM 95-115

To Whom It May Concern:

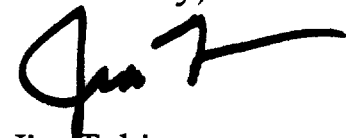
Thank you for the opportunity to provide comments on this issue, MM Docket No. 95-176, "Closed Captioning and Video Description of Video Programming".

Designing current and emerging television programs and related services are important steps in assuring that all citizens will be able to participate in this arm of the rapidly-growing information industry. I congratulate the Commission staff on an excellent Notice of Inquiry, whose depth and completeness will no doubt serve the Commission and the public well.

Recommendations to the Commission are contained within the text of these Comments and are underlined.

I look forward to the continuing efforts of the Commission to guarantee full participation in information services by citizens with disabilities.

Yours truly,



Jim Tobias

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Comments on MM Docket No. 95-176 Closed Captioning and Video Description of Video Programming

Use of Line 21 of the Vertical Blanking Interval

The NOI indicates in Section II.4. that the Commission adopted rules in 1976 to “provide that line 21 of the vertical blanking interval is to be primarily used for the transmission of closed captioning.” Recent electronic postings by captioning users^{1 2} indicate that there have been instances of the use of this technology for other than captioning. The Commission should undertake to investigate this issue and determine whether and to what extent programming providers are using line 21 for other than captioning. In the event that these uses do in fact jeopardize the captioning application, the Commission should consider actions to secure the required technical resources for captioning.

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Demographics and Statistics

The NOI requests comments “regarding the number of individuals in this country who can benefit from [captioning and video description]”. The NOI goes on to suggest that there may be more affected citizens than the cited statistics (23 million with hearing impairments and 8 million with vision impairments) indicate. However, it may be the case that a more systematic clarification and refinement of statistics is required. The Commission also cites a study indicating that “nine in ten Americans watch television on a regular basis.” Certainly some citizens with hearing or vision impairments are in this category, and we know little about their use. We do not at present know, for example, how many of the 23 million people with hearing impairments use their televisions the same way as viewers without hearing impairments, how many use them with increased audio volume or bass/treble adjustments, how many use them with a remote speaker or headphone, how many use audio in conjunction with captions, or how many use captions only.

¹ Message 726 of Media-Access newsgroup: “Using closed-captions as subtitles”, Mon, 8 Jan 1996, posted by Jeremy Bond Shepherd (jbond.netcom.com) regarding use of line 21 for Spanish language subtitles instead of captioning.

² Undocumented recent posting indicating that a video game company has used line 21 of their television commercials for game information.

Having these numbers is a necessary first step in identifying cost-effective solutions. The Commission should cooperate with other federal agencies concerned with disabilities and/or demographics to support the development of improved statistical results regarding citizens with the disabilities most likely to require consideration in video programming.

Industry is also interested in accurate statistical information regarding this market segment. Market research and analysis is currently weak here, due to the absence of usable statistics. Market managers and analysts need access to information about people with disabilities that looks like and works like the information they use to analyze other segments. Once those numbers are available, industry will understand more fully the value of universal design. The Commission should support or initiate efforts to convene an information industry panel, using existing industry organizations if possible, whose mission will be to collect, analyze, and disseminate information about the demographics of disability.

Although the scope of this NOI does not include it, I will take this opportunity to comment that the use of television by persons in other disability categories may be jeopardized by developments in television technology. People with mobility impairments may have difficulty using remote controls required to operate navigational interfaces. People with cognitive impairments may have difficulty using the same navigational interfaces if they are too complex. People with speech impairments may not be able to operate navigational systems that replace remote controls with voice activation. The Commission should consider expanding the scope of its investigation to include other disability categories.

Mass Market Opportunities

The NOI mentions in Section III.12. several “other benefits” attendant to captioning and video description, as literacy or convenience features. Additional uses include:

- Transcripts. Some television news and documentary programs already offer a transcript as an additional product. Captioning, while not identical to transcription, is related, and it is reasonable to assume that the market demand for a text version of a program is an additional, related motivation for video providers and/or distributors.
- Caption-driven Navigation. At least one prototype has been developed of a system that uses keywords to search through closed captioning text in real time. The system finds and automatically switches a television set to the news program that is covering the “budget” or “Bosnia”, to give two keyword examples.

- Research. Similar to the above example, but not in real time. An elementary school student researching cheetahs, for example, could use a captioning data base to locate and play segments of video programs that deal with cheetahs, even where the title or program description did not contain the word.
- Audio-only video sessions. Radios are currently marketed that allow users to listen to the audio track of some broadcast television stations. Video description may find a similar market, such as for people who are driving, people at work who are permitted to listen to radios and do not want to miss their favorite mid-day show, and people performing errands around the house. For all these users, video description would be more valuable than the plain audio track.

The Commission should take the lead in cooperating among federal agencies to identify, quantify, demonstrate, and disseminate to industry all examples of these market synergies.

The Telecommunications Relay Service (TRS) Analogy and Market Forces

The Commission rightly emphasizes the value of market forces over mandated programs wherever possible in our nation's effort to extend and expand access to telecommunications and information technology. For the purposes of analyzing certain issues related to this NOI, perhaps a comparison with the Telecommunications Relay Service is valuable.

TRS is a service mandated by the Commission based on Title IV of the Americans with Disabilities Act. TRS relays conversations between TTY users and users of ordinary telephones, currently by providing a Communication Assistant to type what the phone-user speaks and speak what the TTY-user types. Users of the service pay only the cost of the call had it been direct. The other costs of the service are funded in most jurisdictions by a small subscriber line surcharge.

However, the existence of TRS has in no way prevented or discouraged individuals and businesses from acquiring their own TTYs for direct communication with TTY users. The efforts of advocacy organizations and a corresponding general increase in awareness of the value of being able to communicate with TTY users has led a growing number of businesses to obtain TTYs, allocate personnel and telephone lines to their use, and make known their availability through advertisement and outreach. In fact, business listings that include TTY numbers may well have grown as

rapidly as TRS service³. The evidence shows that TRS is an effective, overlapping option for both telephone subscribers. Businesses can decide to provide direct TTY access, or to rely upon the mandated TRS program; TTY users can more and more choose to prefer doing business with firms that provide direct TTY access. TRS itself is evolving to include both statewide contract providers and national providers, giving users another option.

Clearly there are service differences between direct TTY and TRS, especially speed. There may be no such differences among types of services considered in this NOI. Additionally, the TRS funding model, with its costs being borne by all telephone subscribers, is not under consideration within the NOI. These are two significant differences between TRS and the services under consideration here. However, the relevant point is that voluntary, market-driven motivation can co-exist with mandated programs. In fact, the proper balance among various business models may provide the public with the most effective solutions.

The Commission should focus its attention on the construction and support of complementary business model options in providing captioning and video description services.

Technical Evolution

Telecommunications technology is moving fast, and driving the potential for new services and features before it. As services and features proliferate in a deregulated environment, it becomes less possible to predict mass market media behavior; we know less each day about what will be offered and what will be embraced by the public. What we assume about television viewing -- the "classical" model circa 1960 of one TV in the living room, tuned to a major network while the whole family sits and watches together -- is less true every day. What if the principal display device becomes a portable personal unit worn throughout the waking hours? What if the home becomes the school and the workplace both? What if "programs" in neat thirty minute blocks cease to exist, as users move from one 10-second content "chunk" to another with interactive controls? How will we guarantee that citizens with disabilities will be able to participate? The Commission should seek to guarantee that its "technology scouting" activities be fully informed of the needs of disabled consumers, seek early warning of possible usability barriers, and

³ See National Directory of TTY Numbers published by Telecommunications for the Deaf, Inc., years 1991 through 1995.

communicate these potential barriers to both the disabled community and industry.

Although there are certainly causes for concern, technological advances may also offer us new ways to achieve accommodation.

For example, one current trend is towards individualized media, where the information form and content are suited to each user. Personalized media distribution offers a powerful accommodation capability that is mass market oriented: session types and user profiling. By actively selecting presentation preferences on a per-session or per-user basis, the “right” version of a program is delivered automatically. It may be an audio-only session with video description for a blind user or a car commuter; it may be a captioned version for a deaf user or a hearing person in a noisy environment. When designated disabilities disappear and are replaced by user preferences, universal design is being observed.

The Commission should support and participate in public and private research already underway that demonstrates the ability of new technologies to offer accommodation alternatives.

Conclusion

The Commission has an opportunity to help plan for current and future accessibility in television programming. By judicious use of market mechanisms and industry coordination, the most cost-effective solutions can be reached while keeping mandatory activities and formal regulation to a minimum.